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09/315,334	05/20/2000	MICHAEL E. D. WINSER	40062.12US01	6400

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EXAMINER
QUELER, ADAM M

ART UNIT	PAPER NUMBER
2176	

DATE MAILED: 11/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _20 May 1999_ .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under _Ex parte Quayle_, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-33_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-33_ is/are rejected.

7) ☒ Claim(s) _3, 7 and 13_ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on _20 May 1999_ is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ . .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

1.   This action is responsive to communications: Application received 5/20/1999.

2.   Claims 1-33 are pending in the case. Claims 1, 5, 14, 19, 24, 25, and 29 are independent

claims.

Drawings

3.   The drawings are objected to because on page 13, lines 12-13, leaf nodes "d" and "e" are

said to correspond to items 410 and 412, respectively. In FIG 4, "e" refers to 410 and "d" refers

to 412. A proposed drawing correction or corrected drawings are required in reply to the Office

action to avoid abandonment of the application. The objection to the drawings will not be held

in abeyance.

4.   The drawings are objected to because in FIG 4, item 404 contains the formula

"$b+foo(c)$". In accordance with the other items on the page and the shown dependency to item

402, it appears that this was meant to be "$b=foo(c)$". In addition, the dependency implied by the

inclusion of variable "c" is not shown between item 404 and 408. A proposed drawing

correction or corrected drawings are required in reply to the Office action to avoid abandonment

of the application. The objection to the drawings will not be held in abeyance.

Specification

5.   The disclosure is objected to because of the following informalities: On page 13, line 23,

the phrase "and is its dependent," is not clear on which item is the dependent.

     Appropriate correction is required.

6.   The disclosure is objected to because of the following informalities: On page 14, line 10;

the word "dash" appears to be a typo of "hash."

Appropriate correction is required.

Claim Objections

7.   **Claim 3** is objected to under 37 CFR 1.75(c), as being of improper dependent form for

failing to further limit the subject matter of a previous claim. Applicant is required to cancel the

claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the

claim(s) in independent form. There is no difference between changing a second value in

response to a change in the first, and automatically changing the second when the first one

changes.

8.   **Claim 17** objected to because of the following informalities: It appears that claim 17 is

intended to be dependent on claim 16. For examining purposes only, it will be examined as if it

was dependent on claim 16. Appropriate correction is required.

9.   **Claim 13** objected to because of the following informalities: There appears to be a typo

on line 6 of the claim. It states the second expression is dependent on itself. For examining

purposes only, it will be interpreted as "until the first and third expressions are executed."

Appropriate correction is required.

Claim Rejections - 35 USC § 112

10.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making
> and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it
> pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode
> contemplated by the inventor of carrying out his invention.

11.   **Claims 4, 18, and 33** are rejected under 35 U.S.C. 112, first paragraph, as containing

subject matter which was not described in the specification in such a way as to enable one skilled

in the art to which it pertains, or with which it is most nearly connected, to make and/or use the

invention. How the HTML forms a user interface is not disclosed in the specification. For

examining purposes only, the Office broadly interprets a user interface to mean a web site.

Claim Rejections - 35 USC § 101

12.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
> any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
> requirements of this title.

13.   **Claim 24** is rejected under 35 U.S.C. 101 because the claimed invention is directed to

non-statutory subject matter. Claim 24 does not tangibly embody the invention in a computer-

readable medium. .

Claim Rejections - 35 USC § 103

14.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

15.   **Claims 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Harris et al.**

(USPN 5276607—published on 1/4/1994), herein referred to as Harris, in view of Garman

(USPN 5926822—filed on 9/6/1996).

Regarding independent claim 5, Harris discloses a first object that is a scalar and a second

object that is a function of the first (col. 4, ll. 50-59). Harris also discloses a

dependent/dependency relationship between scalar properties and expressions that allows the

expressions to be recalculated (col. 1, ll. 20-25). Harris is silent as to using nodal structure with

pointers. Gorman discloses a tree for doing such recalculations (col. 9, ll. 3-5). Trees were well

known to contain nodes linked with pointers in memory. It would have been obvious to one of

ordinary skill in the art at the time of the invention to combine Gorman into Harris in order to

use tree-based structures instead of list based data structures.

16.   Claims 1-4, 19, 23 and 25, are rejected under 35 U.S.C. 103(a) as being unpatentable

over Harris in view of Dynamic HTML: Master the Essentials by Joseph Schmuller, ©

1998, Chapter 7, found at "http://library.books24x7.com/book/id_208/viewer.asp?pr=1"

herein referred to as Schmuller.

Regarding independent claim 1, Harris discloses a first object that is a scalar and a second

object that is a function of the first (col. 4, ll. 50-59). Harris does not explicitly disclose

properties being executed in a browser. Schmuller discloses code executed in browser that

changes calls functions based on changes in a static property (pp.1-3). It would have been

obvious to one of ordinary skill in the art at the time of the invention to modify Schmuller into

Harris, as it would have provided a method of dynamically changing a web page.

Regarding dependent claims 2 and 3, Harris discloses changing the second property in

response to a change in the first (col. 2, ll. 61-69).

Regarding dependent claim 4, Schmuller discloses HTML code forming a user interface that

changes upon expressions changing that are dependent on static values (pp.1-3).

Regarding independent claim 19, Harris discloses a dependent/dependency relationship

between scalar properties and expressions that allows the expressions to be recalculated (col. 1,

ll. 20-25). Inherently the code must be analyzed to determine where scalar properties and

expressions are. Harris discloses executing an expression dependent on a scalar property upon

notification of a change in that property (col. 2, ll. 61-69). Harris does not explicitly disclose

properties being executed in a browser. Schmuller discloses code executed in browser that

changes calls functions based on changes in a static property (pp.1-3). It would have been

obvious to one of ordinary skill in the art at the time of the invention to modify Schmuller into

Harris, as it would have provided a method of dynamically changing a web page. It would have

been further obvious to include a processor, a peripheral in data communication with the

processor, and memory storing a browser, as these were all well-known components of a

computer system.

Regarding dependent claim 23, it would have been obvious to one of ordinary skill in the art at

the time of the invention to include a monitor for display of the HTML document as it was a

well-known peripheral for computers, for the purpose of displaying data.

Regarding independent claim 25, Harris discloses a first object that is a scalar and a second

object that is a function of the first (col. 4, ll. 50-59). Harris discloses mapping a

dependent/dependency relationship (col. 1, ll. 20-25). Harris discloses changing the second

property in response to a change in the first (col. 2, ll. 61-69). Harris is silent as to having a

script engine. Schmuller discloses executing the code in a browser which displays would the

document, which has a dynamic property (p.1-3). It would have been obvious to modify

Schmuller into Harris to provide a method of dynamically displaying a web page.

17.   **Claims 6-18, 20-22, and 26-33 are rejected under 35 U.S.C. 103(a) as being**

unpatentable over Harris in view Garman and further in view of Schmuller.

Regarding dependent claim 6, neither Harris nor Garman teach forming the data structure with

a browser. Schmuller teaches writing expressions in a markup language (p.1). It would have

been obvious to have a browser create the data structure, since the browser would have been

processing the HTML. It would have been further obvious to combine Schmuller into Harris and

Garman to provide a manner of dynamically changing a web page.

Regarding dependent claim 7, Schmuller discloses the markup language is HTML (p.1).

Regarding dependent claim 8, Garman discloses a structure that maps two scalar properties to a

single expression (Table 3). It would have been obvious to one of ordinary skill in the art at the

time of the invention use pointers as they were an equivalent structure for mapping

dependencies.

Regarding dependent claim 9, Garman discloses a structure that maps one scalar property to

two expressions (Table 3). It would have been obvious to one of ordinary skill in the art at the

time of the invention use pointers as they were an equivalent structure for mapping

dependencies.

Regarding dependent claim 10, Garman discloses a structure that maps an expression to a two

expressions (Table 3). It would have been obvious to one of ordinary skill in the art at the time

of the invention use pointers as they were an equivalent structure for mapping dependencies.

Regarding dependent claim 11, Garman discloses a structure that maps dependent/dependency

relationships (Table 3). It would have been obvious to one of ordinary skill in the art at the time

of the invention use pointers as they were an equivalent structure for mapping dependencies.

Regarding dependent claim 12, Harris teaches expressions can have any number of

dependencies (col. 1, ll. 56-64), which includes have an expression dependent on an expression

dependent on a scalar. Harris also teaches recalculating in an order such that dependent

expressions will not be recalculated until its dependent expressions are recalculated first (col. 1,

ll. 26-32).

Regarding dependent claim 13, Harris teaches expressions can have any number of

dependencies (col. 1, ll. 56-64), which includes have an expression dependent on an expression

dependent on a scalar, and a third expression. Harris also teaches recalculating in an order such

that dependent expressions will not be recalculated until its dependent expressions are

recalculated first (col. 1, ll. 26-32).

Regarding independent claim 14, Harris discloses a first object that is a scalar and a second

object that is a function of the first (col. 4, ll. 50-59). Harris does provide a method of mapping

dependencies (col. 1, ll. 20-25), but does not explicitly disclose a dependency graph. Garman

teaches using a tree, equivalent to a dependency graph for recalculations. Both Garman and

Harris are silent as to involving a browser. Schmuller teaches HTML code executed by a

browser that has relationships between properties (p.1). It would have been obvious to one of

ordinary skill in the art at the time of the invention to modify Schmuller into Garman and Harris

in order to dynamically change a web page.

Regarding dependent claims 20 and 26, Harris teaches adding dependent cells to a

recalculation list (col. 7, ll. 60-65), equivalent to propagating the dirty bit. Finally Harris teaches

executing cells marked for recalculation (col. 8, ll. 24-27). Harris does provide a method of

mapping dependencies (col. 1, ll. 20-25), but does not explicitly disclose a dependency graph.

Garman teaches using a tree, equivalent to a dependency graph for recalculations. It would have

been obvious to modify Garman into Harris to enable use of tree-structure rather then the lists of Harris.

Regarding dependent claims 21 and 27, Harris discloses executing the expressions in a sequential order from least-dependent to most-dependent (col. 7, line 39 – col. 8, line 27).

Regarding dependent claim 22 and 28, Garman teaches a signal received by the input changes the value of a scalar property (col. 8, ll. 66-67), and generating a changed property notification (col. 9, ll. 1-3). Upon receive the signal the expressions are executed (col. 9, ll. 1-7).

Regarding independent claim 29, a propagated signal comprising the same steps as the method of claim 14 is rejected under the same rationale.

Regarding dependent claims 15 and 30, Harris discloses changing a dirty bit when the properties change (col. 5, ll. 51-64). Harris teaches adding dependent cells to a recalculation list (col. 7, ll. 60-65), equivalent to propagating the dirty bit. Finally Harris teaches recalculating cells marked for recalculation (col. 8, ll. 24-27).

Regarding dependent claims 16 and 31, Harris teaches recalculating at the completion of propagation (col. 8, ll. 16-27).

Regarding dependent claims 17 and 32, Harris teaches recalculating in an order such that dependent expressions will not be recalculated until its dependent expressions are recalculated first (col. 1, ll. 26-32). Harris does provide a method of mapping dependencies (col. 1, ll. 20-25), but does not explicitly disclose a dependency graph. Garman teaches using a tree, equivalent to a dependency graph for recalculations. A tree inherently has a plurality of nodes. Also a most-dependent node would inherently have no dependent nodes, and similarly a least dependent

expression, would only be dependent on a scalars. It would have been obvious to modify

Garman into Harris to enable use of tree-structure rather then the lists of Harris.

Regarding dependent claims 18 and 33, Schmuller teaches generating a user interface, and

updating the interface based on the value changing (p.1)

Conclusion

18.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

- US-6,138,130 to Adler et al.
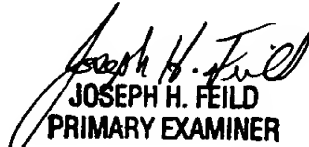- US-5,835,712 to DuFresne, Fred B.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Adam M Queler whose telephone number is (703) 308-5213.

The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Heather Herndon can be reached on (703) 308-5186. The fax phone numbers for the

organization where this application or proceeding is assigned are (703) 746-7239 for regular

communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is (703) 306-5631.

JOSEPH H. FEILD
PRIMARY EXAMINER

AQ
November 18, 2002